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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/555,263	11/01/2005	Stein Kuiper	NL 030549	9310
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EXAMINER				
MARTINEZ, JOSEPH P				
ART UNIT		PAPER NUMBER		
2873				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/555,263

Applicant(s)

KUIPER ET AL.

Examiner

JOSEPH MARTINEZ

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4, 6, 8, 11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 4, 6, 8, 11 and 13, the phrase "preferably", "more preferably", or "most preferably" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). For purposes of examination, the phrases "preferably", "more preferably", or "most preferably" will be omitted. Appropriate correction is required.

2. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then

narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 11 recites the broad recitation from 0.05 to 0.3, and the claim also recites from 0.1 to 0.2 which is the narrower statement of the range/limitation. For purposes of examination, the examiner interprets the ranges to be claimed in the alternative format (see rejection of claim 11 below). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berge et al. (6369654) in view of Shenderov (6565727).

Re claim 1, Berge et al. teaches for example in fig. 1, an electrowetting module comprising a cavity (12), containing at least a first body of a first fluid (11) and a second body of a second fluid (13), the two bodies being separated by an interface (A, B), and means (16, 17) for exerting a force on at least one of the bodies to change the position and/or shape of the interface (col. 4, ln. 14-15), characterized in that at least one of the fluids comprises a liquid (11, 13), the liquid comprising a compound containing molecules in the liquid phase (col. 6, ln. 52-55).

But, Berge et al. fails to explicitly teach molecules having a zero dipole moment.

However, Berge et al. teaches for example, varying the liquid constituents (col. 6, ln. 52-55). Furthermore, the applicant relies on inherent chemical properties of compounds disclosed in Table 1 of the instant application. Within the same field of endeavor of electrowetting, Shenderov teaches for example, providing benzene (col. 4, ln. 14). Furthermore, the examiner interprets benzene to provide a zero dipole moment, since a zero dipole moment is an inherent chemical property of benzene, and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Shenderov in order to provide a rapid manipulation of small isolated volumes of fluids, as taught by Shenderov (col. 1, ln. 14-15).

Re claim 2, Shenderov further teaches for example, the liquid comprises a compound containing symmetric molecules (benzene; col. 4, ln. 14).

Re claim 3, Berge et al. further teaches for example in fig. 1, the compound is at least one of an organic compound and a silicon-based compound, being symmetrically substituted (col. 6, ln. 52-55).

Re claims 4-8, *supra* claim 3.

But, Berge et al. in view of Shenderov fail to explicitly teach the claimed chemical compound structure limitations.

However, Berge et al. teaches for example, varying the liquid constituents (col. 6, ln. 52-55). Furthermore, the applicant relies on inherent chemical properties of compounds disclosed in Table 1 of the instant application. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the liquids to include chemical compound structure limitations, since the various chemicals are known equivalents in the art and the selection of any of these known equivalents would be within the level of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. in view of Shenderov in order to reduce manufacturing costs based on availability of equivalent chemical compounds.

Re claim 9, Berge et al. further teaches for example in fig. 1, an optical component, the first and said second fluid body having different refractive indices,

wherein the compound added to the liquid has a refractive index difference increasing effect (col. 7, ln. 3-5).

Re claim 10, Berge et al. further teaches for example in fig. 1, the first fluid body is electrically conducting and/or polar, and the second fluid body is electrically non-conducting, the module being provided with means for exerting an electric force to change the position and/or shape of the meniscus-shaped interface (abstract).

Re claim 11, Berge et al. further teaches for example in fig. 1, the difference in refractive index is from 0.05 to 0.3, or from 0.1 to 0.2; the refractive index of said second, non-conducting body, which comprises a liquid comprising a compound containing symmetric molecules and having zero dipole moment in the liquid phase, being larger than 1.4, or larger than 1.45, or larger than 1.50, or larger than 1.55 (col. 7, ln. 3-5).

Re claim 12, Berge et al. further teaches for example in fig. 1, said first and said second fluid bodies show a similar density (wherein the examiner interprets the density of 11 and 13 to be similar).

Re claim 13, supra claim 12. Berge et al. further teaches for example in fig. 1, the second fluid body comprises a liquid (13), comprising a compound containing molecules in the liquid phase (col. 6, ln. 52-55).

But, Berge et al. fails to explicitly teach molecules having a zero dipole moment , and a density larger than 1.0 g/cm³, or larger than 1.05 g/cm³, or larger than 1.50 g/cm³.

However, Berge et al. teaches for example, varying the liquid constituents (col. 6, ln. 52-55). Furthermore, the applicant relies on inherent chemical properties of compounds disclosed in Table 1 of the instant application. Within the same field of endeavor of electrowetting, Shenderov teaches for example, providing benzene (col. 4, ln. 14). Furthermore, the examiner interprets benzene to provide a zero dipole moment and a density larger than 1.0 g/cm³, since a zero dipole moment and density are inherent chemical properties of benzene, and therefore teaches the claimed limitation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Berge et al. with the teachings of Shenderov in order to provide a rapid manipulation of small isolated volumes of fluids, as taught by Shenderov (col. 1, ln. 14-15).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Martinez/
Patent Examiner, AU 2873
9-17-08